Wright State University

CORE Scholar

Spring 2012

CS 470/670: System Simulation

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Repository Citation

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CS 470 / 670
System Simulation
Summer 2012

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Instructor:	Dr. M. M. Rizki
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Hours:	Monday and Wednesday 5:30-6:30 PM
	and by appointment
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Textbooks:

Simulation Modeling and Analysis (4th Edition)
by A. M. Law and W. D. Kelton, McGraw-Hill, 2007

Course Requirements:

Simulation Exercises (2 @ 15%)	30%
Simulation Project	30%
Examinations (2 @ 20%)	40%

General Policies:

1. Projects are due at the time posted in Pilot. Assignments not submitted by due date will be accepted up to one week late at a penalty of 25%. The final project must be submitted on the due date -- no late final projects will be accepted.

2. Projects will be graded based on (1) quality of the simulation analysis, (2) correctness of the results, and (3) quality and readability of the code. Code that does not compile or produces serious run time errors will receive a grade of zero.

3. Homework may be assigned periodically. It will not be graded, but similar problems will appear on your examinations so it is to your advantage to attempt each homework problem.

4. Students registering for CS 670 will be asked to perform additional work on each assignment. As always, graduate students are expected to produce superior quality work!

5. Questions, discussion, and debate are strongly encouraged.

Course Outline:

1.	Basic Simulation Concepts	L&K	1.1-1.4, 1.7-1.9
	Simulation Methodologies	L&K	2.1-2.4, 2.8
2.	Introduction ot Python and SimPy	Handouts	
3.	Building Valid Simulations	L&K	5
4.	Probablistic Aspects of Simulation		
	Review of Probability	L&K	4
	Random Number Generators	L&K	7
	Random Variates	L&K	8.1, 8.2, 8.3.1-8, 8.3.15-16, 8.4, 8.6
5.	Statistical Aspects of Simulation		
	Selecting Input Distributions	L&K	6
	Analysis of Output	L&K	9.1-9.5
6.	Comparing Alternative Configurations	L&K	10
7.	Variance Reduction Techniques	L&K	11
8.	Experimental Design	L&K	12.1-12.3
9.	Simulation Languages	L&K	3